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NASA CASE NO. LAR-13,680-1

PRINT FIG. The Figure 9?

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(NASA-Case-LAR-13680-1) VAPOR FRAGRANCER Patent Application (NASA) 9 p Avail: NTIS HC A02/MF A01 CSCL 14B

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VAPOR FRAGRANCER

AWARDS ABSTRACT

NASA Case No. LAR 13680-1

This invention relates to a vapor fragrancer for continuously, uniformly, and economically odorizing or deodorizing an environment.

Environments such as homes, offices, automobiles, and space stations require either odorizing or deodorizing of the atmosphere to create pleasant conditions for work or leisure. A vapor fragrancer 25 is provided to accomplish these goals. A supplier 12 continuously supplies a predetermined amount of desired liquid fragrance 21 from container 10 to a retaining material 13, which is positioned in the circulation path 14 of atmosphere 20. Supplier 12 is either a low powered pump or a gravity dispenser. Atmosphere flowing in circualtion path 14 passes over retaining material 13 containing liquid fragrance 21 and lifts a fragrant vapor 22 from retaining material 13. Atmosphere 20 is thereby continuously and uniformly fragranced.

The novelty of this invention resides in the use of a retaining material which is supplied with a liquid fragrance and positioned in the circulation path of an atmosphere, resulting in a vapor fragrance to odorize or deodorize the atmosphere.

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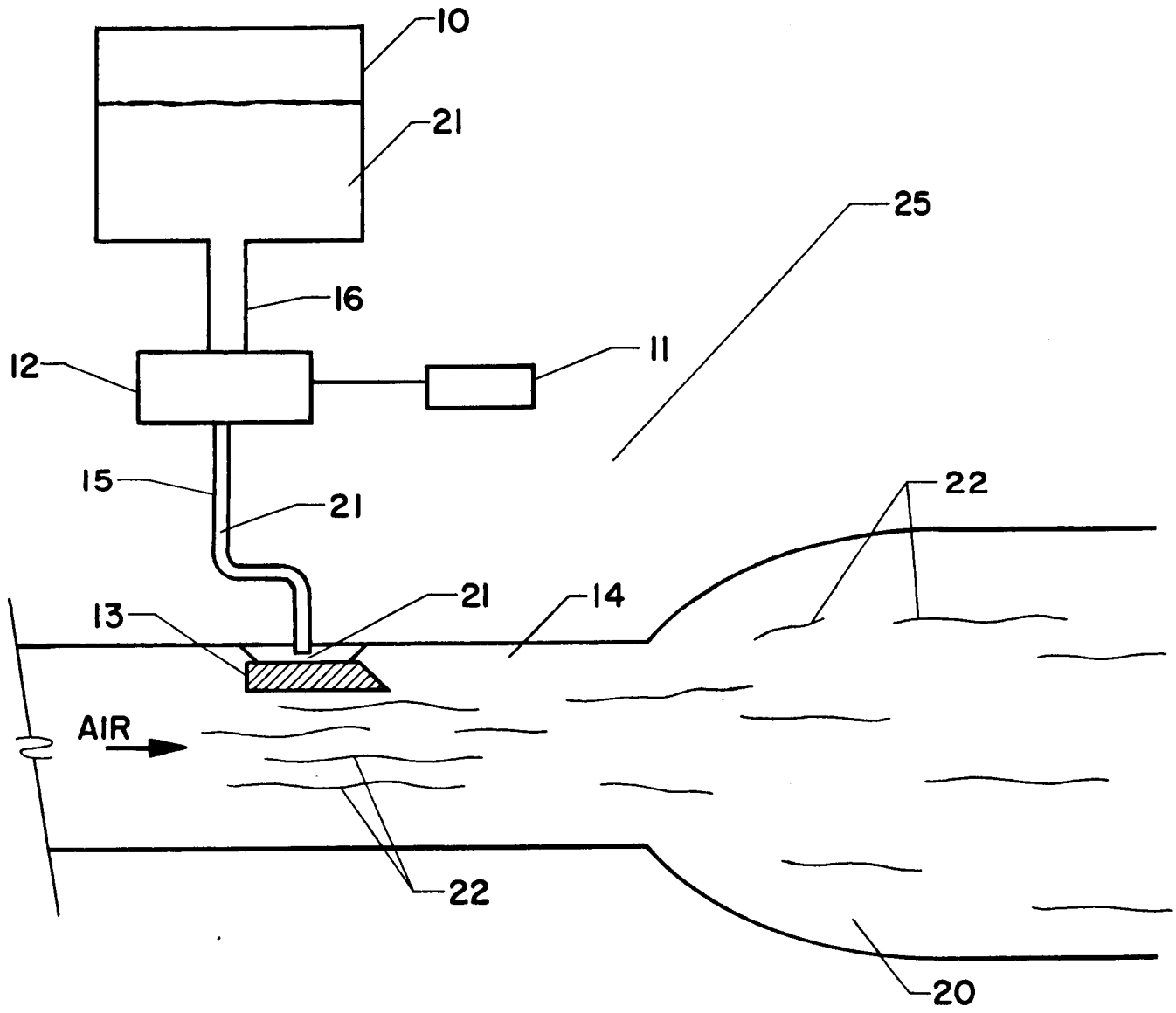
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VAPOR FRAGRANCER

Origin of the Invention

The invention described herein was made by employees of the United States Government and may be manufactured and used by or for the Government for governmental purposes without the payment of any royalties thereon or therefor.

Technical Field of the Invention

This invention relates generally to fragrancers and more specifically to a device for supplying vapor fragrances to an ambient atmosphere.

Background of the Invention

Various methods and devices have been employed to either deodorize an environment of unpleasant smells or to odorize an environment with desired fragrances. These environments may include a home, office, factory, or automobile. In addition, fragrances may be utilized to approximate the earth's weather conditions, seasonal changes, and daily time changes in the normally sterile environment of a space vehicle or station. One device for fragrancing earthly environments involves the drawing of a deodorant from a canister with a pump and then atomizing the liquid for distribution to the atmosphere. The atomization of the liquid deodorant creates a deodorizing mist. The main disadvantage of this liquid atomizing system is that a constant and uniform level of fragrance is difficult to obtain. The fine mist spray creates a strong presence of fragrance at each pumping that is quickly dispersed, thereby creating a cyclic presence of the desired odor in the atmosphere. In addition, the atomizer must have small orifices, which may become clogged. Also, the high pressure required for the atomizer results in a significant leaking if any damage occurs to the dispensing tubing. Other devices involve a prepared material containing the deodorant

or odorant. Examples include odorant strips for automobiles and fragrant materials placed in the circulation path of an air conditioner. The major disadvantage of these devices is also a cyclic presence of the desired fragrance. For example, since the odorant strips must be strong enough to last for a given time, the odor is initially unpleasant if not overpowering.

Accordingly, it is an object of this invention to provide a device which deodorizes or odorizes an environment continuously and uniformly.

It is a further object of this invention to accomplish the foregoing objects with a small amount of pressure to avoid leaks.

It is a further object of the invention to accomplish the foregoing objects without clogging of the odorant system.

Other objects and advantages of this invention will become apparent hereinafter in the specification and drawing which follow.

Summary of the Invention

According to the present invention, the foregoing and additional objects are obtained by the provision of a vapor fragrancer. A low powered pump or a gravity dispenser draws a desired deodorant or odorant from a container to a retaining material such as cotton, which is placed in the circulation path of the atmosphere (e.g., an airduct). As circulating atmosphere passes over the retaining material, deodorant or odorant vapor is lifted from the retaining material and distributed continuously and uniformly into the atmosphere.

Brief Description of the Drawings

FIG. 1 is a schematic diagram of vapor fragrancer 25.

Detailed Description of the Invention

As illustrated in Fig. 1, the vapor fragrancer 25 is comprised of a container 10, a controller 11, a supplier 12, and a retaining material 13. Container 10 is filled with a liquid form of the desired deodorant or odorant fragrance 21. The liquid fragrance 21 passes through passageway 16 to supplier 12.

Supplier 12 may be either a low powered electrical pump of approximately 10W or a gravity operated dispenser. The use of a gravity operated dispenser will depend upon the space restrictions and aesthetic considerations of the particular situs of vapor fragrancer 25. Sufficient space must be available to place container 10 above gravity operated supplier 12, which in turn must be placed above retaining material 13. Thus, gravity will cause liquid 21 to flow from container 10, through passageway 16, to gravity operated supplier 12, then through passageway 15 to retaining material 13. Gravity operated supplier 12 advantageously consists of a valve.

Likewise, if supplier 12 is a low powered pump, liquid fragrance 21 is drawn from container 10 through passageway 16 to pump supplier 12. Then supplier 12 pumps liquid fragrance 21 through passageway 15 to retaining material 13. The advantage of a supplier 12 being a low powered pump is that little energy is required and space restrictions are not as controlling as if a gravity dispenser were used. Pump supplier 12 may be placed in any available space so long as the lengths of passageways 15 and 16 do not extend past the pumping capacity of pump supplier 12.

Controller 11 controls supplier 12 and consequently the amount of liquid fragrance 21 supplied to retaining material 13. Controller 11 may be either manually or automatically operated. If manual operation is selected, an electrical switch controller 11 would control a pump supplier 12 or a manually operated valve controller 11 would control a gravity operated supplier 12. Several automatic controllers 11 may also operate these suppliers 12. For example, controller 11 could be a timer, or an atmospheric sensor which activates supplier 11 when fragrance is needed to maintain a predetermined fragrance level.

The liquid fragrance 21 is then supplied to retaining material 13. Retaining material 13 is preferably composed of cotton cloth. Though any material which may retain liquid is suitable (e.g., foam sponges), cotton cloth was determined to be the optimal retaining material. Retaining material 13 is positioned within circulation path 14. As atmosphere flows through circulation path 14 over retaining material 13 containing fragrant liquid 21, a fragrant vapor 22 is lifted from retaining material 13 and carried to atmosphere 20. Thus, atmosphere 20 is deodorized or odorized continuously and uniformly, as the amount of liquid fragrance 21 in retaining material 13 is maintained at the desired level.

The amount of liquid fragrance 21 supplied to retaining material 13 will vary according to a number of factors. These factors include the amount of atmosphere 20 to be fragranced and the personal preference of the individual user. Regardless of the fragrance level selected, vapor fragrancer 25 will provide a more continuous and uniform level than a conventional atomizer system. This is because a fragrant vapor 22, rather than an atomized mist, is introduced into atmosphere 20. As this fragrant vapor 22 is not susceptible to evaporation as a fragrant mist is, the cyclic presence of fragrance associated with an atomizer system or odorant strips is avoided.

The present invention has been utilized to fragrance an automobile. A pump supplier 12 of approximately 10W was used. This pump supplier 12, along with a container 10 of one pint of liquid fragrance 21, were positioned conveniently under the hood of the automobile. Cotton cloth retaining material 13 was placed within the ventilation system of the automobile. Controller 11 was a manual electrical switch. When controller 11 was activated, liquid fragrance 21 was supplied to cotton cloth retaining material 13. When the ventilation system was activated, the circulation path 14 lifted vapor fragrance 22 from retaining material 13, thereby continuously and uniformly fragrancing the atmosphere 20 of the automobile. The larger tubing 15

and 16 prevented clogging and the low pressure from pump supplier 12 minimized potential leaking.

What is claimed is:

VAPOR FRAGRANCER

Abstract of Invention

A vapor fragrancer 25 is provided for the odorizing or deodorizing of an atmosphere 20. A supplier 12 continuously supplies a liquid fragrance 21 from container 10 to retaining material 13, which is positioned in the circulation path 14 of atmosphere 20. Supplier 12 is either a low powered pump or a gravity dispenser. An automatic and/or manual controller 11 controls supplier 12. Atmosphere flowing in circulation path 14 passes over retaining material 13 containing liquid fragrance 21 and lifts a fragrant vapor 22 from retaining material 13. Atmosphere 20 is thereby continuously and uniformly fragranced.